

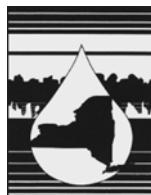
PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report



Public Water System Supervision (PWSS) Program

End of Year Report

Federal Fiscal Year 2016



December 2016

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

GOAL 1: TO ASSURE THAT WATER SUPPLIERS ARE IN COMPLIANCE WITH THE STATE SANITARY CODE AND THAT AN ADEQUATE QUANTITY OF POTABLE, AESTHETICALLY PLEASING DRINKING WATER IS DELIVERED BY PUBLIC WATER SUPPLIES.

1. Assure compliance with Part 5 of the SSC by:

- A. Initiating timely and appropriate action against all significant non-compliers (SNCs), by bringing SNCs into compliance or negotiating a voluntary signed compliance schedule or initiating formal legal proceedings within six months of discovery, including reviewing quarterly Enforcement Targeting Tool (ETT) reports as provided by the U.S. Environmental Protection Agency (EPA), and reporting on the status of unresolved SNCs to EPA on a quarterly basis.

STATUS: The New York State Department of Health (NYSDOH), submitted quarterly SNC status reports to USEPA as required. The following is a summary of compliance activities during October 1, 2015 to September 30, 2016 (reporting period):

Public Water Systems (PWSs) returned to Compliance – 80
Enforcement Actions Taken – 155

- B. Immediately responding to all acute violations (nitrate, E. coli, etc.), including assuring that appropriate corrective actions are taken, appropriate public advisories are issued within 24 hours, and problem alerts are issued as needed.

STATUS: Immediate response was made for all acute violations. Twenty-nine (29) problem alerts were prepared and issued. Twenty-five (25) of the 29 problem alerts were for failed infrastructure/equipment with most being pipe breaks. The 2015-16 winter was milder than usual in some portions of the state, resulting in fewer pipe breaks than has occurred in previous years. In addition, drought conditions across most of the state during the summer and fall of 2016 required diligent management of raw water supplies and monitoring of water system demands by many utilities.

- C. Investigating all reports of possible waterborne disease outbreaks and reporting identified outbreaks to the Center for Disease Control (CDC).

STATUS: The New York State Department of Health (NYSDOH) is prepared to investigate waterborne transmitted disease outbreaks, report identified outbreaks, and review proposed environmental measures aimed at reducing and/or eliminating the potential sources of exposure. Even in the absence of a dedicated

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

CDC support grant (Note: the previous grant has ended) staff have used the National Waterborne Outbreak Reporting (NORS) to report to CDC the identified waterborne diseases outbreaks. Staff have used the experience accumulated and guideline documents developed while participating in CDC grants to produce and formalize internal procedures for investigating and following-up on diseases events (single cases and outbreaks) in healthcare facilities under the NYSDOH jurisdiction. In addition, staff, and primarily the CDC/Council of State and Territorial Epidemiologists (CSTE) fellow participated in calls with the CDC dedicated to developing a NORS –like reporting platform for harmful algal blooms events (human and animal cases as well).

Due to the increased numbers of Legionellosis outbreaks, New York State (NYS) took a proactive approach to address these outbreaks and developed an emergency regulation for Protection against Legionella 10 NYCRR Part 4(August 17, 2015) with focus on cooling towers registration, maintenance and operation in order to validate their procedures for bacteriological and Legionella control in the cooling towers. The emergency regulation was followed by a permanent regulation which went into effect on June 6, 2016, and addressed legionella contamination control in cooling towers (Subpart 4-1) and healthcare facilities (Subpart 4-2). Both regulations require reporting when legionella is detected in water at specified concentrations for specified locations.

- D. Conducting annual reviews and sanitary surveys at all public water systems granted a waiver from disinfection.

STATUS: During the reporting period 846 sanitary surveys and/or site visits were conducted at PWSs that maintain a valid waiver from disinfection. There are currently 1,314 PWS with a waiver from disinfection.

- E. Reviewing operation reports submitted by public water suppliers, identifying violations and other problems that require follow-up.

STATUS: During the reporting period approximately 74,386 operation reports were received and reviewed by NYSDOH staff and Local Health Department (LHD) staff with appropriate follow up actions taken where required. NYSDOH and LHD staff also reviewed 1,015 operation reports on the use of fluoride by public water systems across the State. This information was shared with the Department's Bureau of Child Health (formerly Dental Health) for review and entry into the federal Water Fluoridation Reporting System (WFRS). Data in WFRS can be viewed by the public, dental professionals, and public health staff to assist in determining the level of fluoride prophylaxis necessary.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- F. Assuring Annual Water Quality Reports (AWQRs) are issued when required.

STATUS: STATUS: As of September 30, 2016, a total of 1,490 AWQRs, for calendar year 2015, were received. AWQRs are due by May 31st of each year.

Forty-two (42) Notices of Violation (NOV's) were issued for AWQR reports that were overdue.

2. Coordinate with Wadsworth Center for Laboratories and Research (WCLR) to assure that State Laboratory capabilities are maintained by:

- A. Maintaining EPA certification of the State Laboratory for all analyses required under the Safe Drinking Water Act (SDWA), including participation in water supply proficiency testing (WSPT) studies conducted by approved providers.

STATUS: The NYSDOH laboratories are accredited in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) for the environmental analysis of drinking water with one exception.

- B. Maintaining implementation of the lab certification program for laboratories performing drinking water analyses, per primacy requirements.

STATUS: The NYSDOH continues to maintain implementation of the Environmental Laboratory Approval Program (ELAP). To become certified, a laboratory must be directed by an individual who is qualified through education and experience and perform satisfactorily in at least semi-annual proficiency testing and a biennial on-site inspection. More detailed information on this program is available at: <http://www.wadsworth.org/labcert/elap/elap.html>

- C. Maintaining and updating, as necessary, a Quality Assurance Management Plan (QAMP).

STATUS: The NYSDOH continues to implement the EPA Region 2 endorsed QAMP, which covers the five-year period from FY2013-FY2018.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- D. Conducting special surveillance sampling for bacteriological parameters, as well as inorganic and organic chemicals at public water systems.

	<u>Planned</u>	<u>To Date</u>
Bacteriological	9,600	10,556
Inorganic Chemicals	2,000	1,990
Organic Chemicals	500	647
Radiologicals	50	131

STATUS: Surveillance sampling for bacteriological and SOC/IOC/VOC parameters continued as scheduled. Approximately 10,556 bacteriological, 1,990 inorganic, 647 organic and 131 radiological samples were analyzed in the reporting period.

3. Provide technical assistance to public water systems in achieving compliance by:

- A. Responding to requests and inquiries regarding technical assistance, rule interpretation, or guidance, including responding to consumer complaints.

STATUS: NYSDOH and LHD staff provided technical assistance and/or guidance to numerous regulated public water systems. LHD and NYSDOH staff responded to numerous calls and emails from consumers and water purveyors.. NYSDOH advised on a number of drought related concerns, including reduced source water capacities and use of emergency sources and equipment. NYSDOH and LHD staff provided technical assistance to two water suppliers experiencing discolored water in their distribution systems. NYSDOH staff provided laboratory and on-site assistance to one utility experiencing significant operational difficulties after switching to a backup raw water source. Technical assistance was provided to multiple water systems to help them respond to and recover from water contamination issues. NYSDOH and LHD staff provided assistance to water suppliers experiencing Harmful Algal Blooms (HABs) by monitoring for toxins and providing support related to public notification and treatment methodologies/options.

- B. Determining compliance with existing regulations and promoting improved operation of public water systems by conducting periodic sanitary surveys.

STATUS: As of September 30, 2016 the following sanitary surveys were completed:

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

<i>Type of Public Water System</i>	<i># of Surveys</i>
<i>Community**</i>	<i>1,212</i>
<i>Non Transient Non Community</i>	<i>388</i>
<i>Transient Non Community</i>	<i>3,442</i>

***Includes the following types of Community Water Systems: Municipal, Purchase, Surface w/ treatment, Avoidance, Groundwater*

- C. Providing technical project assistance (e.g., fluoridation, Drinking Water State Revolving Fund (DWSRF)) to public water systems.

STATUS: The technical assistance program provided on-site technical evaluation of fluoridation processes at water systems to help them maintain optimal fluoride levels. Twenty-eight (28) systems received on-site fluoridation assessments during the reporting period. NYSDOH and their technical assistance contractor worked to provide funding to improve, maintain or start fluoridation for several community water systems. Four (4) full-day drinking water training sessions on fluoridation for operators were held across the State.

- D. Directing provision of small system technical assistance through third party contract.

STATUS: NYSDOH staff continued to direct the small systems Technical Assistance (TA) contractor. During FFY 2016 there were 219 site visits performed and 7 days of training delivered by the TA contractor.

4. Assure public health protection at public water systems using surface water sources by:

- A. Assuring unfiltered community and non-community surface water supplies follow established avoidance determinations, compliance schedules, exemption approvals, or stipulations to meet filtration mandates, including annual sanitary surveys.

STATUS: As of September 30, 2016, seven (7) Community Water Systems remain out of compliance with the Surface Water Treatment Rule (SWTR). Compliance schedules exist for six (6) of the seven (7) Community Water Systems. There are no Non-Community Water Systems out of compliance with the Surface Water Treatment Rule (SWTR).

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

Twelve (12) Ground Water Under the Direct Influence (GWUDI) of Surface Water systems remain out of compliance with the SWTR. One system returned to compliance and three new systems were identified as out of compliance.

- B. Completing Comprehensive Evaluations at 1 to 2 existing community water treatment plants each year.

STATUS: One Comprehensive Evaluation Report was drafted for work completed in the previous FFY. During the current reporting period several Focused Performance Evaluations were conducted to assist public water systems deal with specific water quality issues. This included direct on-site technical assistance, sampling and analytical services through the NYSDOH Wadsworth laboratory. Focused performance evaluations and technical assistance were provided as follows:

- Assisted in the development and oversight of the implementation of the start-up plan for a Granular Activated Carbon installation to remove Perfluorooctanoic acid (PFOA) at the Village of Hoosick Falls PWS. Assisted in the development, implementation, oversight and confirmation of the water system flushing program to remove PFOA from water storage and distribution facilities at Hoosick Falls.*
- Assisted in the oversight of the City of Newburgh's preparation and implementation of alternative water sources to avoid using PFC contaminated water. Provided technical assistance and laboratory support during operational challenges per change of water sources. Evaluated potential effectiveness of existing Powdered Activated Carbon delivery system to remove Perfluorooctanesulfonic acid (PFOS) from City of Newburgh source water. Provided comment and guidance to ensure proposed GAC installation at the water treatment plant also included modifications that enabled the City of Newburgh to meet disinfection and other EPA drinking water quality requirements.*
- Provided direct technical guidance, sampling and analytical services to the PWS serving Walter's Village Mobile Home Park to help ensure PFC removal using an existing GAC system.*
- Provided on-site technical assessment, evaluation, sampling, and analytical assistance for the Village of Ilion's slow-sand filtration plant that was experiencing unusual finished water turbidity readings and cloudy water complaints.*

- C. Conducting follow-up visits, as time permits, at communities that had a full CPE to determine the degree of implementation of the recommendations, to discuss

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

any new difficulties at these facilities, or to support communities who are having a specific critical problem.

STATUS: *No follow up effort was conducted during this reporting period. Follow-up water system visits will be scheduled, as time permits in the future.*

5. Assure public health protection by developing, adopting and implementing mandatory federal drinking water regulations into State Sanitary Code, including development and submittal of primacy packages, for:

A. Revised Total Coliform Rule (RTCR)

STATUS: *The NYSDOH is moving forward with the process of adopting the Revisions to the Total Coliform Rule (RTCR) into the State Sanitary Code. The RTCR rule package is expected to be submitted for publication in the NYS Register on July 28, 2017 to initiate the public comment period. Please note that the RTCR primacy package cannot be submitted for rulemaking until the other outstanding rules are adopted (see below).*

B. Variance and Exemption Rule

STATUS: *NYSDOH is aggressively moving forward to incorporate the Variance and Exemption Rule into the State Sanitary Code. It is being bundled with other regulation updates into one rulemaking package that will be submitted for publication in to the NYS Register on February 15, 2017 to initiate the public comment period.*

C. Lead and Copper Rule Minor/Short-Term Revisions

STATUS: *NYSDOH is aggressively moving forward to incorporate the Lead & Copper Rule Minor/Short-Term Revisions into the State Sanitary Code. It is being bundled with other regulation updates into one rulemaking package that will be submitted for publication in to the NYS Register on February 15, 2017 to initiate the public comment period.*

D. Long Term 2 SWTR and Stage 2 Disinfectants and Disinfection By-Products Rule

STATUS: *NYSDOH is aggressively moving forward to incorporate the LT2/Stage 2 Rule into the State Sanitary Code. It is being bundled with other regulation updates into one rulemaking package that will be submitted for publication in to the NYS Register on February 15, 2017 to initiate the public comment period.*

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- E. Other Federal Regulations will be adopted into the State Sanitary Code and primacy packages will be submitted in an expeditious manner as these rules are federally promulgated.

STATUS: There are no other federal rules outstanding besides the regulations outlined in Goal 5 A-D of this report.

- F. Assist the U.S. EPA in the Implementation of the Unregulated Contaminant Monitoring Rule and developing alternative strategies for regulating contaminants.

STATUS: The NYSDOH submitted a Partnership Agreement to USEPA Region 2 on August 2, 2016 to support the implementation of the 4th cycle of the Unregulated Contaminant Monitoring Rule (UCMR4). As part of this agreement the NYSDOH will assist EPA by verifying proper classification of PWSs for monitoring under the UCMR4, confirm proper PWS inventory data, review representative sampling plans, notify PWS of their monitoring responsibilities and assist EPA in ensuring compliance through follow-up contact with PWSs. The NYSDOH will also provide technical assistance, as needed, to the small public water systems for sampling protocols.

GOAL 2: ASSURE THAT LOCAL HEALTH DEPARTMENTS ARE FOLLOWING DEPARTMENT OF HEALTH POLICY FOR REGULATING PUBLIC WATER SUPPLIES.

1. Insure that local health department water supply programs properly implement the program by:

- A. Continuing to use SDWIS-State as reporting and management tool, including the training of regional staff and LHDs on SDWIS-web.

STATUS: The NYSDOH continues to use SDWIS-State as a reporting and management tool. During the reporting period, system usage was approximately 236,764 sessions. The number of NYSDOH and LHD staff with rights to use SDWIS application is similar to that reported in the previous year. Presently, 1,037 users have rights to SDWIS including system administration, data entry or inventory access. This does not account for the usage by those viewing SDWIS data through Drinking Water Watch (DWW).

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- B. Continuing the development of usable management reports from SDWIS-State (i.e., compliance reports, etc.), and SDWIS Add-Ons.

STATUS: SDWIS quality checks support the oversight and implementation of the drinking water rules. The number of total daily quality check categories remains at 107. The NYSDOH created the Enhanced Quality Report – that is, a highly detailed description of each error / quality category for use by the field. Each enhanced quality check provides the name of the quality check, describes what is checked, provides step-by-step instructions on correcting errors, and provides a description on how the error is created. Field coordinators have been provided with a spreadsheet containing all 107 enhanced quality checks to assist NYSDOH and LHD staff with improving SDWIS data quality.

- C. Developing and submitting annual compliance report by July 1.

STATUS: NYSDOH prepares a report of public water systems that had violations during the previous year to satisfy the requirements of Section 1414(c)(3) of the 1996 Amendments to the SDWA. New York submits data including public water supply inventory statistics, violations, and enforcement actions issued to violators to SDWIS/Fed on a quarterly basis. Tables in the report are based on data retrieved from NYSDOH databases maintained by each of the LHDs and district offices. A copy of New York's 2015 annual compliance report was submitted to EPA.

- D. Conducting regular program review/ site visits of all LHDs.

STATUS: Field coordinators perform site visits to each county health department and/ or NYSDOH District Office located within their assigned area. Field coordinators provided written reports of findings and recommendations to LHDs in a timely manner.

- E. Continuing implementation of Drinking Water Enhancement (DWE) grants, including approving annual workplans.

STATUS: The New York State 2016-2017 budget contained a local assistance appropriation for the water supply protection program (i.e. DWE program). Review and approval of 37 LHD drinking water work plans through the DWE grant program ensures implementation of a full drinking water program at the local level.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- F. Continuing to provide training to LHDs for properly conducting sanitary surveys at public water systems with groundwater and/or surface water sources.

STATUS: Sanitary Survey training was presented to LHD and NYSDOH staff by the Cadmus Group under contract with NYSDOH. A total of two (2) sessions were provided consisting of one session on Sanitary Surveys at groundwater systems and one session on Sanitary Surveys at surface water systems. The groundwater course was held October 27-28, 2015 in Rockland County. The surface water course was held October 29-30, 2015 in Putnam County.

GOAL 3: ASSURE THAT WATER SUPPLIERS ARE ADEQUATELY PROTECTING THEIR SUPPLIES, ARE PLANNING FOR FUTURE NEEDS AND CONSTRUCTING FACILITIES TO ADEQUATELY COLLECT, STORE, TREAT AND DISTRIBUTE POTABLE AND AESTHETICALLY PLEASING WATER.

- 1. Assure that water supply facilities are built in accordance with proper design criteria by providing conceptual review and design approval of new construction and major modifications to water supply systems, including:**

- A. Engineering plans/reports and specifications, inclusive but not limited to pilot studies, new processes, corrosion control, filtration for SWTR compliance, disinfection systems, DBP remediation, new sources, cross connection control, storage and other required distribution system improvements.

STATUS: The NYSDOH reviewed 107 projects related to drinking water infrastructure and issued 81 approvals of plans and 18 completed works approvals for prior approved projects. NYSDOH District Office and LHD staff also continued to review and approve plans and issue approval of completed works for drinking water infrastructure projects. NYSDOH staff provided guidance to District Office and LHD staff with respect to plan review standards as requested.

As an incentive to assist systems in protecting their supplies and planning for future needs, the NYSDOH provides funding through the Drinking Water State Revolving Fund (DWSRF) and during this reporting period successfully financed 58 projects totaling \$555 million including \$4 million in grants for disadvantaged communities. All DWSRF projects require plans and specifications to be approved and also require a smart growth analysis in accordance with State law thereby enhancing sustainability.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

Additional state incentive was provided through the NYS Water Grant program and \$87.5 million in grants were awarded for drinking water infrastructure funding through that program. These grants were limited to the lesser of \$3 million or 60% of the total project costs. Many of the projects will be seeking DWSRF loan funding for the non-grant funded portion of the projects.

The NYSDOH continued working with a community water system and their engineers with respect to the use of a new technology, Advance Oxidative Process (AOP), for drinking water treatment. This technology is being evaluated for its ability to treat the unregulated drinking water contaminant 1,4-dioxane. That work included providing guidance and reviewing of pilot study work to determine the effectiveness of the treatment as well as the Approval of the Plans for a demonstration scale treatment facility.

B. Water System Emergency Response Plan and Vulnerability Assessments

STATUS: The NYS Public Health Law requires all community water systems in New York that serve populations greater than 3,300 to update the contact information in their Vulnerability Assessments (VA) and Emergency Response Plans (ERPs) annually and to update and submit their VA/ERPs to the State every five years. A total of 316 community water systems are currently required to submit VA/ERPs, most of which were due in 2013 and 2014. Approximately 76% of those have been submitted to and reviewed by the State. Of those reviewed by the State, 82% have received full approval and revisions have been required from the others. NYSDOH continues to work through the LHDs to ensure the past-due VA/ERPs are submitted, reviewed and finalized.

In August, 2015 NYSDOH specifically requested that Westchester County water systems served by the lower NYC aqueducts make VA/ERP modifications to address potential disruptions of NYC disinfection processes. Approximately 41% of systems submitted revisions during FFY 16. NYSDOH continues to work with Westchester County DOH to ensure the remaining water systems make the requested modifications.

Based on increased concern and emphasis on cyber-security issues in New York and nationally, NYSDOH began procuring and developing information and a checklist for use by PWSs, related to cyber security, during the next VA/ERP updates.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

C. On-Site Waste Treatment Systems (OWTS) plans, policy, and design

STATUS: During the reporting period several commercial products were reviewed for their compliance with the gravelless absorption system requirements specified in 10 NYCRR 75-A, Residential Onsite Wastewater Treatment Standards.

2. Continue to assess whether community groundwater systems may be under the influence of surface water.

STATUS: Efforts continue on GWUDI assessments for community groundwater systems. Of the wells that are currently active, 11,111 have had “negative” determinations and 365 have had “positive” determinations.

3. Continue to implement the State’s Capacity Development Program including submitting the Annual Capacity Development Report to the U.S. EPA by December 31st of each year, and submitting triennial Reports to the Governor.

STATUS: Implementation of the State's Capacity Development Program based on the Capacity Development Strategy approved by the USEPA on September 29, 2000 is ongoing. The Annual Capacity Development Report for FFY 2016 was submitted to USEPA on December 27, 2016. NYSDOH submitted, as required, the triennial assessment report on the Department’s capacity development efforts to the Governor on September 30, 2014. The triennial report is due for submission by September 2017.

4. Continue to implement the Source Water Assessment and Protection Programs by:

A. Review new source water assessments as required, update existing assessments as appropriate, and assist Public Water Systems with Source Water Assessment Plans upon request.

STATUS: Source water assessments are updated through SDWIS as part of sanitary surveys that include a source water evaluation. Procedures are in place to ensure that an initial source water assessment is prepared at water systems that are developing new sources. In addition, numerous requests for information about drinking water sources and assessment areas are received from individuals and companies that are acquiring property or planning projects and want to minimize the impact on drinking water sources.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- B. Continuing to provide support to local health departments and communities in developing a source protection/well head protection program that incorporates the source water assessment.

STATUS: The NYSDOH continues to provide guidance on using source water assessment reports and conducting source water protection activities including well head protection as needed/requested.

Requests for information about public water sources and assessment areas near proposed new and expanded natural gas pipeline routes were received during the reporting period. Federal regulations require companies to get information about drinking water sources and assessment areas near pipeline routes.

- C. Ensuring that public water systems that draw water from the Hudson River are properly monitored and protected during and after the Hudson River PCB dredging project.

STATUS: Monitoring of Hudson River public water systems for PCBs during the river dredging project is completed. A report summarizing the results of the monitoring program, including the pre-dredging sampling, was submitted to EPA Region 2 to fulfill the requirements of the original grant and its subsequent extensions.

5. Continue to track NYC filtration avoidance (FAD) compliance by:

- A. Providing daily oversight of the City's compliance with all avoidance deliverables.

STATUS: NYSDOH staff continued to review and respond accordingly to all Filtration Avoidance Determination (FAD) deliverables. During the reporting period, staff prepared the report for the 2015 Annual On-Site Inspection of the NYC Catskill and Delaware Water Supply System and conducted some components of the 2016 Annual On-Site Inspection. Additional FAD oversight was provided through participation in FAD-required program meetings during the reporting period, in particular for: the Stream Management Program (annual in field and in office meetings), the Catskill Turbidity Control Program (annual progress meeting), the Watershed Monitoring Program (Pathogen Work Group Annual meeting and the 2016 Watershed Science and Technical Conference), and the annual FAD budget meeting.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- B. Responding to and providing oversight for any significant or unusual NYC water quality or water treatment events.

STATUS: NYSDOH provided oversight for the following issues that had the potential to create significant water quality impacts during the reporting period. No significant impacts to drinking water resulted from any of these events.

- *October 2015 –petroleum haze in Gatewell 22 of Shaft 18 of the Delaware Aqueduct due to a lubricant;*
- *October 19, 2015 – plane crash into Titicus Reservoir;*
- *December 2015 – elevated Cryptosporidium and Giardia in a sample from a tributary to Kensico Reservoir;*
- *December 2015 /January 2016 – Shutdown of the New Croton Aqueduct low service tunnel during investigation of a leak on the Trans-Manhattan Expressway;*
- *January 10, 2016 – turbidity alert at Shaft 18 (>1.5 ntu);*
- *Ongoing issue of poor matrix spike recoveries of Cryptosporidium and Giardia from matrix spike samples done for Quality Assurance /Quality Control for pathogen monitoring. NYCDEP modified its method for analysis of these samples to improve recoveries;*
- *February 16, 2016 – turbid discharge near Cannonsville Dam due to construction activity;*
- *March 8, 2016 – Croton Filter Plant online Free Chlorine Residual analyzer underreporting;*
- *April 21, 2016 – 30 minute drop in chlorine readings at Shaft 18 of the Delaware Aqueduct;*
- *June 2016 – elevated Cryptosporidium in a tributary to Kensico Reservoir;*
- *June 22, 2016 – High turbidity grab sample at the Shaft 18 downtake (due to biofilm in the sample lines);*
- *July 25, 2016 – elevated turbidity at Shaft 18 downtake due to local storm runoff;*
- *August 2016 – removal of oil tanks from Schoharie Reservoir (these tanks were likely transported into the reservoir during Hurricanes Irene and Lee);*
- *August/Sept 2016 – expired 100% Transmittance calibration standard at the Catskill/Delaware UV Facility;*
- *August/Sept 2016 - algal blooms in reservoirs in the Croton Water Supply System. The Croton Filtration Plant was shut down until the algal blooms dissipated.*

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- C. Working jointly with EPA to assure the Hillview Reservoir covering project is in accordance with Administrative Orders.

STATUS: The NYSDOH reviewed monthly reports on NYCDEP's activities to monitor and deter wildlife in and around Hillview Reservoir. These wildlife management reports are requirements of the Hillview Reservoir Administrative Order. In addition, NYSDOH reviews NYCDEP's annual report on the implementation of wildlife management practices at Hillview, which is included in the FAD Waterfowl Management Program annual report, submitted by September 30 each year. The next milestone date for the Hillview Reservoir Administrative Order is January 31, 2017.

- D. Participating in and providing oversight for various NYC Memorandum Of Agreement (MOA) and FAD related committees.

STATUS: The NYSDOH continued to participate in various committees including: the Watershed Agricultural Council Advisory Committee, the Wastewater Watershed Enforcement Coordination Committee, and the Stormwater Watershed Enforcement Coordination Committee. Staff participated in meetings involving USEPA, NYSDEC, NYCDEP, the Coalition of Watershed Towns, the Catskill Watershed Corporation, environmental group representatives, and watershed county representatives to discuss and help develop solutions to issues the Watershed communities raised regarding NYC's implementation of its FAD programs and Watershed Rules and Regulations.

- E. Provide oversight on the implementation of NYC's Cat/Del FAD, with collaboration from EPA Region 2.

STATUS: Since the transfer of primacy for oversight of the FAD under the Surface Water Treatment Rule, NYSDOH has continued to collaborate with USEPA on the oversight of the FAD. During the reporting period, NYSDOH, in consultation with USEPA, commented on deliverables submitted by NYCDEP pursuant to FAD requirements. During the reporting period, NYSDOH, in consultation with EPA, began the process of developing the program requirements for the 2017 FAD.

- F. Ensuring that the Croton Water Treatment Plant (filtration) remains on schedule.

STATUS: Construction of the Croton Water Filtration Plant (WFP) has been substantially completed and the plant went on-line to distribute treated water to

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

the NYC distribution system on May 7, 2015, ten days before the due date for this milestone, per the Third Supplement to the Croton Consent Decree (CD). The WFP completed the twelve-month termination period of the Croton CD on May 6, 2016, during which it met all the requirements of the CD for termination. The Croton WFP delivered the design maximum flow (290 million gallons per day) into the NYC water distribution system for three hours on November 15, 2015. NYSDOH issued Final Completed Works Approval for the WFP on June 10, 2016. NYCDEP requested termination of the CD in letter dated July 18, 2016 to the US and NYS Attorneys Offices.

- G. Ensuring that the Cat/Del Ultraviolet (UV) light disinfection facility remains on schedule.

STATUS: In accordance with the Administrative Order on Consent, the Cat/Del UV facility came fully on-line by December 1, 2012 treating Cat/Del water with a UV dose of 40 mJ/cm². Since then, NYSDOH approved operation of the Cat/Del UV using a UV dose that will provide 2-log inactivation of Cryptosporidium. NYSDOH reviews operation of the Cat/Del UV through monthly operation reports submitted by NYCDEP.

- H. Ensuring that the adoption of amendments to the New York City Watershed Rules and Regulations by the State occurs in a timely manner.

STATUS: Amendments to the New York City Watershed Rules and Regulations were formally adopted into the Rules of the City of New York and became effective in the watershed on April 4, 2010. The documents required by the State Administrative Procedures Act (SAPA) in order to adopt these Watershed Regulations into NYS code have been submitted to the State Regulatory Affairs unit and are currently under review by the NYSDOH Division of Legal Affairs staff. However, NYSDOH attended a briefing by NYCDEP on November 17, 2015 regarding additional proposed revisions to the Watershed Rules and Regulations. NYSDOH will wait to adopt the 2010 amendments along with the currently proposed amendments, which are still in development.

6. Continue to perform security inspections of public water systems when needed in response to security issues.

STATUS: No security inspections were conducted in this reporting period; no systems requested security assessments. NYSDOH District Office, LHD and NYSDOH central office staff include review of security components during sanitary surveys and other water system inspections (e.g. completed works inspections).

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

GOAL 4: ASSURE THAT POTABLE DRINKING WATER IS PROVIDED DURING EMERGENCIES.

1. Assure potable water is provided during water supply emergencies by:

- A. Responding to requests for technical assistance in times of emergencies, including coordinating with the State's Office of Emergency Management for the release of stockpile equipment. This includes the preparation and issuance of appropriate internal "problem alerts."

STATUS: Requests for release of emergency drinking water equipment from the State's stockpiles were approved by the New York State Office of Emergency Management (NYSOEM) after consultation with NYSDOH. Available equipment includes portable tanks, tankers, filters and pumps. NYSDOH continues to work with NYSOEM to procure and maintain appropriate equipment for water supply emergencies at the State stockpiles. NYSDOH discussed with NYSOEM the procurement of dedicated potable water pumps. NYSOEM and NYSDOH also hosted trainings for one of the water filtration units in the stockpile. Representatives from local water system, New York Rural Water Association and New York Water/Wastewater Agency Response Network attended the trainings.

NYSDOH participated in regular Drought Management Task Force meetings during the summer and fall of 2016 to keep NYSOEM and other agencies updated on the nearly 60 public water supplies affected by the drought. During the late summer of 2016 NYSDOH was tracking nearly 60 PWSs that had issued some level of water conservation advisory because of actual or pending water shortage concerns. NYSDOH worked with NYSOEM and other entities to ensure adequate plans and resources were available and ready should a water supply emergency develop.

Problem alerts were prepared and issued as required.

- B. Preparing a summary report of emergencies during each calendar year and submitting a copy to EPA Region 2.

STATUS: A report on public water system emergencies in calendar year 2015 was developed and submitted to EPA Region 2. The calendar year 2016 report is under development and will be issued in early 2017.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- C. Promoting mutual aid between water utilities, including supporting the NY State Water/wastewater Agency Response Network (NYWARN), providing information to the regulated community about mutual aid and NYWARN, and incorporating NYWARN into appropriate training opportunities state wide.

STATUS: NYSDOH continues to promote the benefits of being a member of NYWARN in meetings with water systems and at professional conferences. Where appropriate, NYSDOH draws upon the knowledge of the NYWARN members to assist water utilities. The NYSDOH continues to foster interactions between NYWARN, the State Emergency Operations Center, and the NYSOEM, including helping to facilitate the training of NYWARN members on the operation of NYSOEM emergency equipment.

NYSDOH participated in a NYWARN-sponsored exercise on March 23, 2016 that involved simulation of a deliberate PWS contamination event. Numerous local and state response agencies participated.

- D. Assuring that certified bulk and/or bottled water is available when necessary.

STATUS: NYSDOH maintains up to date contact information for verified bulk haulers and bottled water producers. This information is available on its public website at: http://www.health.ny.gov/environmental/water/drinking/bulk_bottle/. The use of these sources during emergencies is covered by NYSDOH guidelines for community water system emergencies, and is overseen by LHD staff. In addition, potable water tankers are kept ready and available by the NYSOEM in coordination with the NYSDOH.

GOAL 5: ASSURE THAT EMERGING ISSUES IN WATER SUPPLY REGULATIONS ARE EFFECTIVELY REVIEWED AND INNOVATIONS IN WATER SUPPLY DELIVERY ARE PROMOTED, AS WELL AS INCREASING THE TECHNICAL COMPETENCE AMONG REGULATORY AND OPERATIONAL STAFF.

- 1. Assure staff are properly trained by holding quarterly Bureau-wide meetings, attendance at the New York Section of the American Water Works Association (NYAWWA) and New York Rural Water Association (NYRWA) training sessions and other specific local, state and national conferences, including, but not limited to, American Water Works Association's National Conference, Association of State Drinking Water Administrators' National, Member, and Work Group Meetings, New England Interstate Water Pollution Control Commission, Association of Board Certification.**

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

STATUS: Meetings and remote conferences were held on a regularly scheduled basis to present or review regulatory issues and help develop and maintain standardization and efficient program delivery. These included weekly NYSDOH program managers meetings, bi-weekly conference calls with NYSDOH regional environmental health directors, quarterly NYSDOH central office staff meetings, and conference calls with regional water field coordinators. Program initiatives were presented to NYSDOH and LHD staff thru these various venues, including, attendance at the spring and fall meetings of the New York State Conference of Environmental Health Directors. NYSDOH staff participated in key conferences including the spring and fall conferences of the NYAWWA, and the annual conference of the NYRWA. Several local Waterworks Association and NYRWA sessions were attended by NYSDOH regional office staff, often to deliver program presentations. Participation at various national workgroup meetings was accomplished through conference calls.

During this reporting period NYSDOH staff also participated in the following conferences/workshops either in person or via conference call: Recommended Standards for Water Works Committee meeting (October 2015); ASDWA/EPA Data Management Users Conference (May 2016); EPA Small Systems Workshop (August 2016); ASDWA Annual Conference (October 2015); and the 2016 University of Massachusetts Drinking Water Treatment Institute.

2. Assure that water systems are operated by competent operators by:

A. Certifying new operators

STATUS: 468 new water operators were certified

B. Renewing operator certifications

STATUS: 1,869 renewals for water operators were approved

C. Reviewing and endorsing operator certification courses

STATUS: 46 initial operator certification courses were reviewed and endorsed.

D. Reviewing and approving operator renewal training courses

STATUS: 998 operator renewal courses were reviewed and approved.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

- E. Developing and implementing regulatory changes to standardize operator certification training provider approvals

STATUS: The NYSDOH developed standards for delivery of certification training and most training providers are meeting these proposed standards voluntarily. Regulatory changes to require training providers to meet the proposed standards were initiated but have not been finalized.

3. Assure that cross connection control programs at water systems are maintained by competent backflow prevention testers by:

- A. New certified backflow prevention testers

STATUS: Certified 555 new backflow prevention testers.

- B. Renewing backflow prevention testers

STATUS: Processed 723 renewals for backflow prevention testers.

4. Conduct basic Environmental Health Course Water Supply 101 module for new state and county staff.

STATUS: The water supply module of the Basic Environmental Health Course for new LHD staff were held on October 6-8, 2015 in Cayuga County, NY and on September 27-29, 2016 in Genesee County, NY.

5. Continue participation in Child Health Initiative by assisting EPA with collection and analysis of lead samples from school drinking water outlets in selected cities around the state.

STATUS: NYSDOH staff continued to assist USEPA Region 2 in providing technical assistance on the lead in drinking water in schools program. In addition, NYSDOH staff partnered with EPA Region 2 to provide training to schools and LHDs on the EPA's 3Ts program and NYS's new regulation, 10 NYCRR Subpart 67-4, Lead Testing in School Drinking Water. NYS has implemented a landmark program to have all outlets, within public schools, used for or potentially used for drinking and/or cooking purposes tested for lead and remediated if the sample exceeds the action level. In addition, this program requires transparency and reporting/posting of all results. Information on this program can be found at http://www.health.ny.gov/environmental/water/drinking/lead/lead_testing_of_school_drinking_water.htm.

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

6. Actively seek additional funding to conduct relevant research.

STATUS: Research scientist staff continued to seek additional funding sources to conduct relevant drinking water quality research as detailed below:

NYSDOH staff completed all work on CDC Environmental Health Specialist Network (EHS-Net) agreements (including “Revitalizing Core Environmental Health Programs through the Environmental Health Specialists Network (EHS-Net) Research”). Competitive re-application under EHS-Net was not being offered by CDC. All reports for this effort were submitted at the close of 2015.

NYSDOH competed a two-year CDC cooperative agreement on improving State and local capacity to assess and manage risks associated with private wells. Staff conducted an online survey to collect information about unregulated drinking water sources (UDWSs) from LHDs and Regional NYSDOH. A summary fact sheet was also developed to explain the project scope, goals, background and expected benefits to LHDs and other agencies. Twenty-two counties with private well data sources were identified through the survey. With the support from Environmental Health Directors in various Regional Offices, NYSDOH established data partners and collected UDWS data from ten counties. Private well data were also obtained from NYS Department of Environmental Conservation (DEC) and US Geological Survey (USGS). All data sources and results were then merged into a single searchable table and stored as a Microsoft (MS) Access 2013 database. All LHDs have been provided the access to this database via NYSDOH Health Commerce System where they could view and download the well locations and associated analyte data. NYSDOH also provided counties with recommendations on how analyte data could be maintained to aid future analysis.

NYSDOH responded to another request for proposal from CDC under their initiative entitled: “Environmental health services (EHS) support for public health for public health drinking water programs to reduce drinking water exposures.” This agreement is currently entitled Safe WATER for community health. This work focuses on determining unique vulnerabilities for private wells as well as outreach for private well owners in New York State (e.g. testing of wells, maintenance, etc.). NYSDOH was awarded a grant of \$134,000 which had a planned start in September 2015. The agreement is renewable for four additional years pending successful progress for each year of activity (total potential award is \$670,000). Activities in 2015-2016 have focused on well vulnerability. NYSDOH identified private wells, unregulated water sources, and non-SDWA wells susceptible to flooding events in fifty-four counties in NYS using the updated and expanded floodplain GIS layers that we consolidated. NYSDOH also focused on wells and unregulated water sources that are nearby Concentrated Animal Feeding Operation (CAFO) activities and took additional steps to

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

incorporate Karst geology into the mapping process. GIS layers and a dataset were built for these identified vulnerable wells. In addition, the vulnerability of wells regulated by NYS but not by SDWA (i.e. “non-SDWA wells”) was further evaluated using NYS Safe Drinking Water Information System (SDWIS) computerized dataset and the GIS orthoimagery of the wells according to previous developed assessments tool (score sheet).

The outreach activities for private well owners involved the development of fact sheet titled “Testing, Operation, and Maintenance of Residential Wells”, which has been approved and posted on NYSDOH website (http://www.health.ny.gov/environmental/water/drinking/regulations/fact_sheets/docs/fs7_individual_water_supply_wells.pdf); the development of a simplified Homeowners’ Checklist for Testing Your Well and Homeowners’ Checklist for Operation and Maintenance of Your Well based on the fact sheet, which are now pending internal review; and the review of other States’ outreach and guidance documents on CAFOs and flooding for private well owners. Information was collected and summarized in word documents. These documents will be used when developing outreach materials on actions private well owners can take to prepare for CAFO or flooding events as well as to recover from them.

Task AA, Legionella Prevention, was funded through an on-going Epidemiology and Laboratory Capacity (ELC) cooperative agreement with CDC. The work involves identifying rapid detection methods for legionellae; comparison of water quality indicators (ATP, heterotrophic plate counts, PCR); and evaluation of the effectiveness of regulatory implementation. Funding includes: \$123,590 per year, plus \$95,291 for a Research Scientist allocated to Wadsworth Laboratories (Environmental Biology Laboratory) to help with the rapid methods. The funds are potentially renewable for 3 years and are contingent upon the availability of funds.

As a result of previous CDC EHS-Net Research cooperative agreements, staff have continued to implement computational fluid dynamics for validating disinfection components during special projects. In addition, a manuscript that is related to an advanced analysis of baffle factors for disinfection vessels was prepared and accepted for The Journal of Environmental Engineering: Paccione, J.D., D.M. Follansbee, P.L. Young and D.M. Dziewulski. Analytical Determination of the Baffle Factor for Disinfection Contact Systems Based on Hydraulic Analysis, Disinfection Kinetics and Ct Tables. DOI: 10.1061/(ASCE)EE.1943-7870.0001094. In silico simulations continue to be produced for a subsequent document to demonstrate the subject matter.

In addition, a manuscript on the effectiveness of copper silver treatment in controlling legionellae in healthcare facilities was published (Dziewulski, D.M., E. Ingles, N. Codru, J. Strepelis and D. Schoonmaker-Bopp. 2015. Use of Copper-Silver Ionization

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

for the control of legionellae in an alkaline environment in healthcare facilities. AJIC. DOI: 10.1016/j.ajic.2015.05.018, AJIC 43(9):971-976)

Also, staff served as both authors and reviewers for the USEPA document: Technologies for Legionella Control in Premise Plumbing Systems: Scientific Literature Review, United States Environmental Protection Agency, Office of Water, EPA 810-R-16-001, September 2016.

In May 2014 the NYSDOH was selected to host a 2-year CSTE/CDC Fellow. This individual worked on syndromic surveillance related to gastrointestinal illness as a result of water quality or infrastructure failure. The fellow assisted in establishing protocols for responses to harmful algal blooms; compiled data on outbreaks; and produced outreach materials for veterinarians and physicians. HAB surveillance measures (animal and human) were developed. The fellow also published a manuscript in the American Journal of Public Health: Figgatt, M., N. Muscatiello, L. Wilson and D. Dziewulski. 2016. Harmful algal bloom-associated illness surveillance: Lessons from reported hospital visits in New York, 2008-2014. Am J Public Health, published online ahead of print January 21, 2016; e1-e3. doi:10.2105/AJPH.2015.302988.

NYSDOH submitted a subsequent billet approved for student review on the CSTE website. NYSDOH was fortunate to be selected as a host site for 2016-2018 and the new fellow started her fellowship in October 2016. The primary tasks of her work will be waterborne disease with a focus on Legionellosis and a secondary focus on HAB.

GOAL 6: EFFECTIVELY ADMINISTER THE PUBLIC WATER SYSTEM SUPERVISION PROGRAM.

- 1. Ensure all EPA reporting requirements under the grant are met and EPA proposal for regulations and policies are promptly commented upon as requested.**

STATUS: Reporting requirements for the FFY 2015 PWSS Grant were fully met. This report provides an annual reporting update for FFY 2016. The NYSDOH provides appropriate input on proposed USEPA regulations and policy matters as they arise.

- 2. Continue to promote need for adequate resources to implement full water supply regulatory program, including appropriate budget proposals and personnel management.**

STATUS: The program has continued its efforts to maintain adequate budget support while participating in the State and Department's budget austerity initiatives. The

PUBLIC WATER SYSTEM SUPERVISION (PWSS) PROGRAM
FFY 2016 End of Year Report

Drinking Water Enhancement grant program for county health departments continued during state fiscal year 2016 with an allocation of \$5,013,000.

3. Ensure overall program coordination with Federal and State agencies.

STATUS: The NYSDOH continues to coordinate with its partners on the federal and state levels. NYSDOH met with EPA Region 2 on February 3, 2016 to discuss overall program coordination as well as during periodic conference calls. In addition, NYSDOH continued to coordinate with the NYS Department of Environmental Conservation (NYSDEC) by holding periodic meeting with the NYSDEC Division of Water.

4. Submit to EPA a status report or work plan achievements at END of year.

STATUS: The current PWSS grant award encompasses a three year period from October 1, 2014-September 30, 2017. This report is the second of 3 annual reports to be submitted by the NYSDOH and encompasses the period October 1, 2015-September 30, 2016.

5. Additional activities/ initiatives not otherwise highlighted in the approved workplan.

STATUS: NYSDOH is collaborating with EPA Region 2 on developing, and participating in, a two day workshop on Harmful Algal Blooms (HABs). The goal of this workshop is to develop a collaborative relationship between various agencies and to develop a platform for sharing information related to HAB occurrence, monitoring and treatment.

The NYSDOH participated in an EPA sponsored watershed emergency response seminar and tabletop exercise for the City of Newburgh water system. NYSDOH collaborated with EPA in developing an exercise scenario of a chemical spill adjacent to the source water for the City of Newburgh. This successful event included participants from NYSDOH, EPA, NYCDEP, Orange County and two neighboring towns.